

# Gut Feeling

## GI Health & Your Mood



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- Nuclear Chemist at Wolf Creek Nuclear Operating Station
- Worked at Billings Clinic Psychiatric Hospital before ND school
- Specialize in GI pathologies, hormone imbalances, neurotransmitter health
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# What is a Naturopathic Doctor?

- Graduated from **accredited** Naturopathic Medical Schools
- American Association of Naturopathic Physicians - Board certified, CEs, licensed
- Visit [TXAND.org](http://TXAND.org)



# Our Mood



- **19%** of American Adults experience mental illness.<sup>1</sup>
- **Anxiety** affects **40 million** people per year.<sup>2</sup>
- **Depression** affects **18 million** people per year.<sup>2</sup>
- **Hope for Depression Foundation:**
  - **Over 50%** of patients with depression/anxiety **do not** respond to existing treatment.<sup>3</sup>
  - “Since the advent of antidepressants 30 years ago, little progress has been made treatment options.”<sup>3</sup>

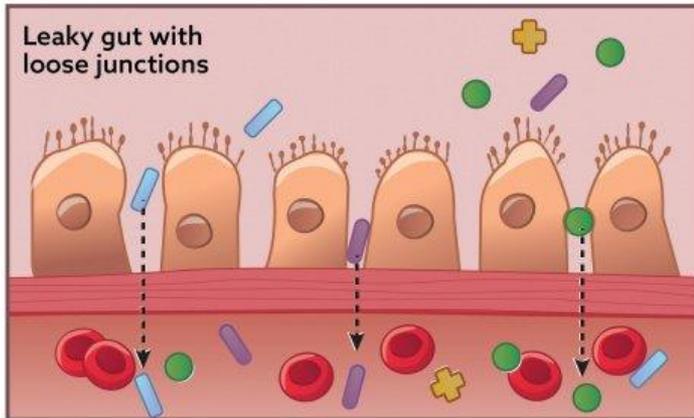
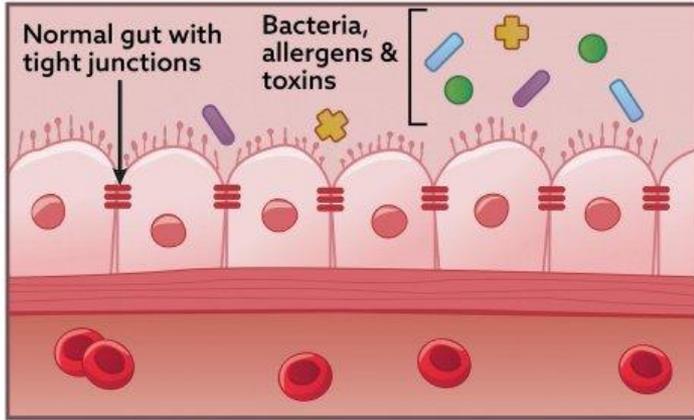
# Rethinking Mood



- **Emerging evidence:**

1. Links **inflammation** to depression and anxiety.<sup>4</sup>
2. **Cognition** and **memory** improved with healthy digestive system and stable blood sugar.
3. **Gut microbiome** affects the way we think and feel.<sup>5</sup>

# Inflammation and the Gut-Brain Connection <sup>6</sup>

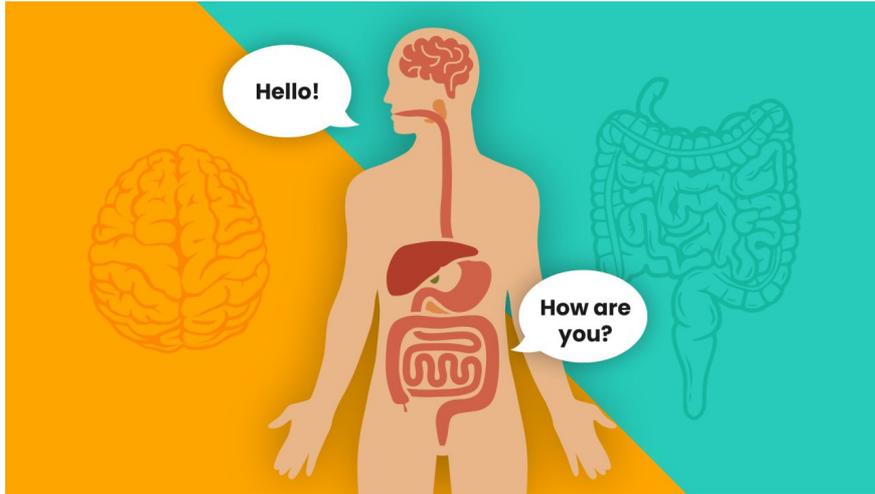


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## ● Leaky Gut

- Inflammatory foods & toxins damage cells, increasing oxidative stress & weaken the tight junctions.
- Bacteria & toxins enter bloodstream.
- Vitamin D levels decrease
- Malabsorption
- Healthy probiotics cannot grow well on inflamed tissue

# Leaky Gut = Leaky Brain



- **Leaky Brain**
  - The Blood Brain Barrier lets in nutrients, keeps out toxins, bacteria, viruses, and lets out waste.
  - With leaky gut, the BBB weakens, allowing toxins and even microbes into the brain. <sup>7</sup>



# Inflammation and the Brain

- **Sugar and Insulin Resistance**

- Insulin increases C-Reactive Protein, fibrinogen, and plasminogen, all signs of blood vessel damage.<sup>8</sup>
- Stabilizing blood sugar decreases inflammation on the brain.
- “Low-normal A1C levels are associated with more favorable brain health outcomes.”<sup>9</sup>



# Neurotoxic Food Additives <sup>10,11,12,13</sup>

- Artificial Sweeteners:
  - a. **Aspartame**
  - b. **Saccharine**
  - c. **Sucralose**
- **High Fructose Corn Syrup**
- **Trans Fats & Hydrogenated Oil** - banned in Switzerland, Austria, Hungary, Iceland, Norway and Denmark
- **MSG** (monosodium glutamate)
- **Diacetyl** (artificial butter flavoring)
- **Hydrolyzed Vegetable Protein** - flavor enhancer
- **Carrageenan** - found in ice cream - phasing out in EU
- **Calcium Caseinate** - Contains MSG
- **Sodium Caseinate** - Contains MSG
- **Potassium Caseinate** - Contains MSG
- **Red #40** - Warning label in EU
- **Red #3** - banned in EU
- **Yellow #5** - warning label in EU,
- **Yellow #6** - banned in Norway and Austria
- **Blue #1, 2**
- **Green #3**
- **BHT** - Butylated hydroxytoluene -flavor enhancer, found in cereals, banned in EU
- **Titanium dioxide** - found in candies - EU is phasing out
- **Brominated Vegetable Oil** - Found in soda pops, banned in Japan, European Union

# GABA and Glutamate

## Glutamate - Excitatory

- Anxiety, can't calm down
- Butterflies in the gummy
- Inability to sleep
- Headache, migraine
- Seizure
- Impulsivity



## GABA -Calming

- Rest and digest
- Sleep better
- Critical, creative thinking, problem solving
- Less pain
- Less stress
- Calmer, in control

# Dementia, Brain Fog, Cognition

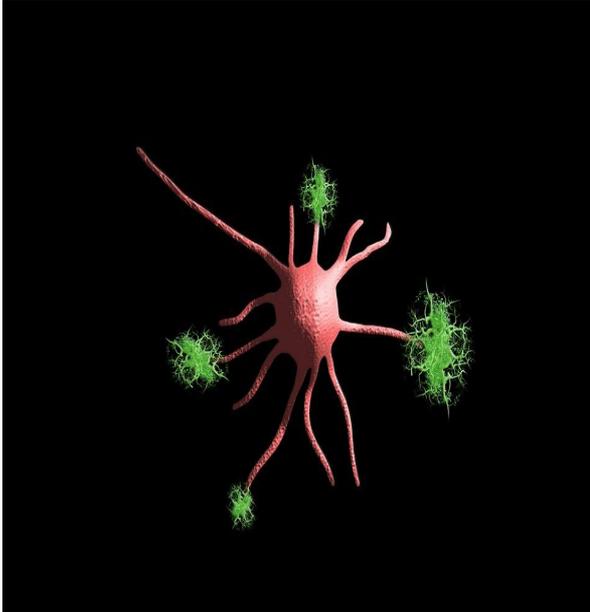
**Dr. Daniel Amen's work<sup>15</sup>**

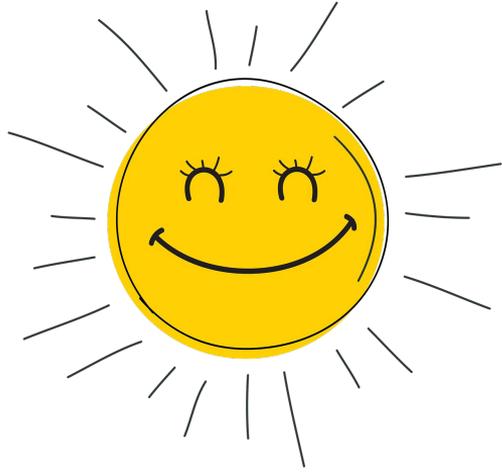
**Microglia** - Special Healing Cells of the Brain

**Microglia Priming** - Overactive cells damage tissue.

**What increases this Priming?**

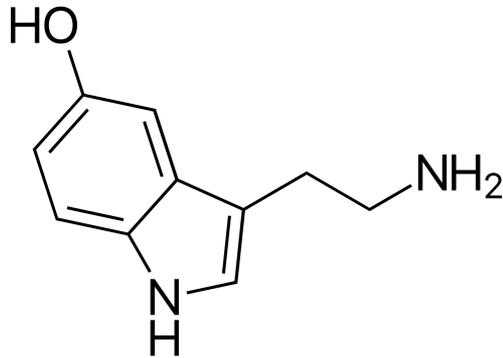
1. Oxidative Stress from Immune System
2. Oxidized cholesterol (VLDL)
3. Traumatic Brain Injury
4. Diffuse Chronic Brain Inflammation (Leaky Gut)
5. Infection - bacteria, viruses, mold
6. Toxic exposure

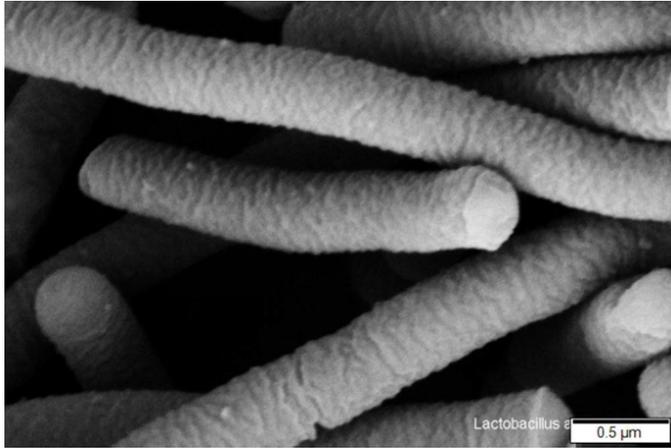




# Serotonin

- **90% of the body's serotonin is produced in the gut.**
- Serotonin is important for healthy mood and sleep.
- Intestinal cells called enterochromaffin (EC) cells make serotonin
- Their production of serotonin is heavily reliant on may on gut microbes to do this. <sup>14</sup>
- Healthy intestinal tissue and a balanced gut microbiome are crucial to maintain neurotransmitter health. <sup>14</sup>

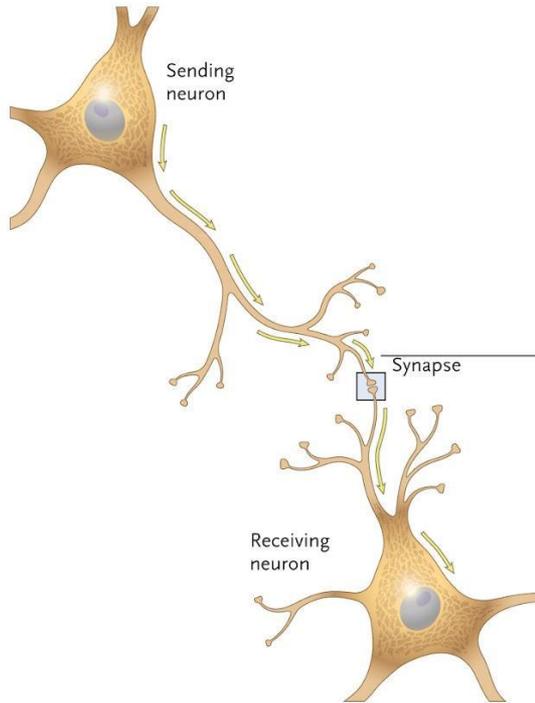




# Healthy Probiotics Don't Grow Well On Inflamed Tissue

## ● Microbiome

- Disruptions in normal, healthy gut flora cause the immune system to overreact and inflame the GI tract, leading to disruptions in neurotransmitter balance in the brain. <sup>5,6,7</sup>
- Inflammatory flora (yeast, SIBO bacteria) create inflammation as they ferment foods rather than digesting them. <sup>8</sup>



# What to do?

Eat mostly vegetables, clean sourced meats, and fruits only once or twice a day.

Watch the sweets, processed foods, and junk foods

Don't neglect your gut health. See your doctor about health screening panels

- Stool Cultures and GI Health Panels
- Food Sensitivity testing (IgG, IgA, IgE)

# For more information:



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**peoplesrx.com**

**People's Wellness Center**

**13870 US 183 North**

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# Endnotes

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5. (Limbana T, Khan F, Eskander N. Gut Microbiome and Depression: How Microbes Affect the Way We Think. *Cureus*. 2020;12(8):e9966. Published 2020 Aug 23. doi:10.7759/cureus.9966
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# Endnotes

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